California State Agency Greenhouse Gas Accounting and Reporting Guidance

Prepared for the
California Environmental Protection Agency

February 2012

Disclaimer:

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Contents

Checklist

The following is a checklist to help GHG inventory preparers to get started and stay on track. The checklist is also intended to serve as a guide as you build your agency's GHG emissions inventory.

- ☐ Inventory your agency's facilities
- ☐ Identify your agency's vehicles
- ☐ List your agency's buildings
- ☐ Does DGS report any of your agency's buildings or vehicles? Don't double count. If DGS already reports your buildings or vehicles, then the GHG emissions are already being tracked and counted.
- ☐ Get a login and password to the Climate Registry Information System (CRIS)
- ☐ Familiarize yourself with CRIS
- ☐ Enter your facilities and sources into CRIS

Scope 1 emissions:

- ☐ Generation of electricity, heating, cooling, or steam: Emissions that result from combustion of fuels in stationary sources (e.g., boilers, furnaces, turbines, and emergency generators)
- ☐ Mobile Sources: Emissions that result from combustion of fuels in agency-controlled mobile combustion sources (e.g., automobiles, trucks, etc.)
- ☐ Fugitive emissions
- ☐ Process emissions

Scope 2 emissions:

- ☐ Purchased electricity
- ☐ Purchased steam, hot water, or chilled water
- ☐ Purchased combined heating and power

Scope 3 emissions (not currently required):

- ☐ Employee business travel
- ☐ Employee commuting

1.0 Introduction

On June 23, 2010, the Climate Action Team (CAT) adopted policies and recommendations to establish an integrated strategy toward sustainability in the State government and to make reduction of greenhouse gas (GHG) emissions a priority for State agencies. Among other provisions, the CAT's policies and recommendations commit all Executive Branch agencies to actions leading to reductions in greenhouse gas emissions from both direct and indirect activities.

The CAT's recommendations call for the creation of a uniform GHG reporting protocol appropriate to State government operations. In coordination with the California Environmental Protection Agency (Cal EPA), the California Department of General Services (DGS), and other agencies as appropriate, this Guidance represents the recommended State GHG reporting and accounting procedures.

The State of California government seeks to continually improve both the quality of data and methods necessary for calculating GHG emissions. In accordance with the CAT's recommendations, additional requirements, methodologies and procedures will be included in revisions to this document and supporting documents to improve the State's overall ability to accurately account for and report GHG emissions over time.

Further, this Guidance is similar in nature to Federal GHG Guidance published in coordination with President Obama's Executive Order 13514, which requires federal agencies to annually and publicly report absolute GHG emissions.

This Guidance document, together with The Registry's General Reporting and Verification Protocols, is designed to address the needs of state agencies through practical advice including tips, tools, and case studies to facilitate the process of building, reporting and verifying a GHG inventory.

In order to accomplish this, all State agencies should input their data into CRIS annually. In order to complete a unified inventory all agencies should have a completed year's worth of GHG inventory data in CRIS. Currently, only a handful of agencies are reporting into CRIS and therefore, it is recommended that all agencies begin to report their 2010 GHG inventory data into CRIS as soon as possible.

1.1 Purpose of this Guidance

This *State Agency GHG Accounting and Reporting Guidance* (or Guidance) establishes requirements for State agencies in calculating and reporting GHG emissions associated with agency operations. State agencies are required to use this Guidance when reporting both direct and indirect GHG emissions.

This Guidance document, together with The Climate Registry's General Reporting and Verification Protocols, is designed to address the needs of state agencies through practical advice including tips, tools, and case studies to facilitate the process of building, reporting and verifying a GHG inventory.

According to the CAT's recommendations, each State agency is required to develop and implement a GHG reduction policy that reduces its GHG emissions by 30% by 2020. State agencies are to include both direct and indirect emissions in order to establish a unified State agency GHG emissions inventory goal (in tonnes of CO2e) and State Operations "emissions targets."

Two general approaches (centralized and decentralized) are commonly used to develop a single inventory for an agency. This Guidance provides calculation and reporting methodologies applicable to either approach for compiling a GHG inventory. Regardless of the approach used to develop a GHG inventory, the data must be aggregated to the agency level for reporting.

The data required to develop an agency-wide inventory will likely be drawn from multiple levels throughout an agency's organizational structure. This Guidance has been developed to provide State agency users, whether representing facility-level activities or headquarters-level functions, with the necessary information to fulfill reporting requirements.

1.2 State Agency Statutory and Executive Order Requirements

This guidance builds upon several existing State statutory and EO requirements related to energy and environmental management. Existing mandates include EO S-20-04 and the Green Building Action Plan (GBAP), California Green Information Technology EO S-3-10 and the Scoping Plan: State Operations CAT recommendations from the California Global Warming Solutions Act of 2006 (AB 32). These mandates establish goals for energy management, purchased electricity, renewable energy use, and other activities that may reduce GHG emissions.

Agencies may elect to inventory more GHGs than required under EO requirements and the CAT's recommendations such as Scope 3 emissions from business travel and employee commuting. Several agencies have indicated that they would like to begin tracking Scope 3 emissions although they are not currently required to do so. It is also important to note that State agencies must report a comprehensive inventory of absolute GHG emissions.

1.3 Carbon Dioxide Equivalent Applied to GHG emissions

The GHGs covered by this Guidance are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These GHGs have varying heat-trapping abilities and atmospheric lifetimes. To facilitate comparison among GHGs, a global warming potential (GWP) value is assigned to each GHG. GWP represents the heat-trapping impact of a GHG relative to carbon dioxide (CO2), which has a GWP of 1.0, and functions as a warming "index." For instance, methane (CH4) has a GWP of 21, so each metric ton of CH4 emissions has 21 times the impact on global warming (over a 100-year time horizon) as one metric ton of CO2 emissions.

To provide a single metric that embodies all GHGs, emissions are reported in metric tons of carbon dioxide equivalent (MT CO2e). To calculate CO2e, the mass of emissions of each GHG is multiplied by the appropriate GWP for that gas.

The Registry's General Reporting Protocol (GRP) provides the emission quantification methodologies for most sources common to state agencies.

2.0 Setting Organizational and Operational Accounting Boundaries

Establishment of organizational and operational accounting boundaries is necessary to develop an agency-wide GHG inventory. Organizational boundaries define the operations, facilities, and sources that an agency controls. For example, depending on how they are applied, organizational boundaries determine whether the landlord or tenant is responsible for reporting emissions associated with the operation of a leased building. Once organizational boundaries are set, operational boundaries are used to categorize emissions resulting either directly or indirectly from agency activities. This chapter outlines how agencies must set their organizational and operational boundaries to ensure compliance with this Guidance.

2.1 Setting Organizational and Operational Boundaries

In order to determine what sources to report and what emissions data to collect you must set your organizational boundaries. Boundaries determine which facilities and corresponding emissions sources you must report. Well-determined boundaries are fundamental to the success of your GHG inventory program because they provide clarity and ensure reported data are consistent. Identifying your organizational boundary will help you answer many important questions such as: Which agency reports what facility? Is there double counting? How are leases addressed? What if I am in a building managed by another agency?

2.2 Entity-wide Reporting

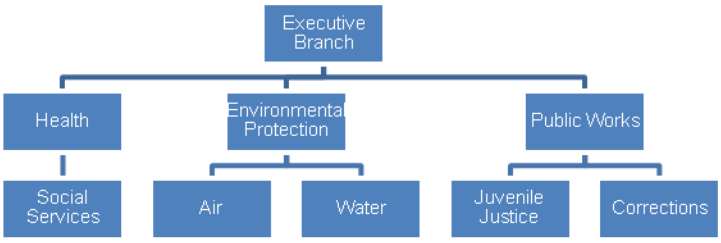
The Registry requires that all Members report their entity-wide emissions. This means that a state agency must report GHG emissions from all of the facilities that fall within its organizational boundaries. This will include any Boards, Departments, and Offices (BDOs) that fall within its boundaries.

> *Example:* The Air Resources Board is a department of the Environment Protection Agency and is therefore under the agency's operational and financial control. As a result of their organizational structure, the Environment Protection Agency's report will include any GHG emissions resulting from the operations of the Air Resources Board.

The goal of this Guidance is to allow agencies to account for all GHG emissions. Ultimately, the State will be able to aggregate all agencies' GHG emissions that will be the statewide, unified GHG inventory. In addition, there will be an aggregate total of GHG emissions at the agency level following reporting by all sub-agencies. Each Cabinet level agency will decide how to best account for all GHG emissions from sub-agencies.

2.3 Government-wide vs. Individual Agency-reporting

The Registry encourages all organizations to report their GHG emissions at the highest level possible. When a government chooses to report in its entirety, the resulting data set allows for comparisons on a broad scale. A government that reports as a whole additionally has more opportunities to reduce the burden of reporting in terms of data management and verification costs. Although complete government reporting does require an increased level of coordination to account for all of a state's emission sources in one report, it allows the various arms of government to build on each other's experiences and expertise, providing occasions for the sharing of internal best practices in order to meet GHG reduction and other sustainability goals. The Registry recognizes that many governments may have several agencies reporting separately as it works up to complete reporting.



Government-wide: You must report GHG emissions for all of your agencies, departments, boards, offices, etc. within the executive branch of the government. In this example the executive branch will report for all the agencies that you see underneath it.

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Individual Agency: You must report for all departments, boards, and agencies that are overseen by the agency. In this example the Department of Corrections will report for all of the facilities and operations whose policies and procedures it determines.

To determine your organizational boundaries, you must first define your "consolidation methodology." A consolidation methodology is a philosophy for how you will define your agency's "entity."

The Registry permits Members to use one or more consolidation methodologies to define their entities and report their emissions. At a minimum, The Registry requires Members to report based on a control consolidation methodology. Members can choose to use either an operational control or financial control approach (see GRP Chapter 4, Organizational Boundaries). For purposes of developing a coordinated state inventory, all agencies must use the same control approach to avoid double-counting within the state inventory. Thus, *agencies will report using Operational Control*

NOTE: If your agency controls electric power generation operations that deliver electricity to the grid, you must report GHG emissions using BOTH the control *and* equity share consolidation methodologies at the generating unit level for those power generation operations according The Registry's Electric Power Sector Protocol (EPS).

Using one of the control approaches you will report 100 percent of the emissions from all sources that are under your control.

• **Operational Control:** An entity has **operational control** over an operation if the entity or one of its subsidiaries has the full authority to introduce and implement its operating policies. The entity that holds the operating license for an operation typically has operational control.

- Why report using operational control?
    - This approach provides a more meaningful picture of your actual emissions and your carbon footprint by providing an accurate picture of the emissions you have control over. Reporting under operational control will include sources where the agency directly affects the emissions but may not have direct ownership. Most agencies have operational control over more activities then they own. In this situation, only by reporting according to the operational control methodology can you track the effects of GHG reduction strategies implemented across all of your operations over time. **The Registry strongly recommends that state agencies report under this approach**.

See GRP Chapter 4, Organizational Boundaries, for further information on organizational boundaries, operational and financial control and the equity share consolidation methodology.

2.4 Facility-Level Reporting

The Registry requires that you report your emissions data at the facility level. This means that as you determine your boundary lines you will need to create a master list of the facilities that are part of your GHG emissions footprint.

2.5 Tips for Determining Boundary Lines

Many agencies face unique challenges when it comes to establishing their organizational boundaries. Buildings are often shared by more than one department or a general services agency may manage buildings or vehicles that are primarily occupied or used by other agencies.

The following scenarios cover common questions and situations faced by reporting agencies:

2.5.1 Leased Spaces (Buildings)

If an agency is reporting under operational control, the occupant of the space, i.e. the lessee must report the emissions associated with the space. Agencies often have offices or floors in buildings that are managed by another agency without a formal lease or contractual agreement

making it unclear who should report the emissions. In this case, agency assigned space and established long term practice can be used as a proxy for a lease to establish boundaries. This makes it the tenant or occupant's responsibility to report the emissions associated with the area.

> *Example:* A health agency is a Member of The Registry. They occupy over 60 buildings, 15 of which are managed by the Department of General Services and five others which are leased through separate companies. The remainder of their buildings are all wholly owned and operated. Under operational control, the health agency accounts and reports for all of the emissions for building space that it occupies. The health agency will report the emissions for its 40 owned buildings and must obtain the records for the 20 leased office spaces assigned to them. Under Operational Control, agencies report for vehicles that are permanently (greater than 1 year) assigned to them, even if they are owned by another agency.

When reporting under operational control you must report all of your leased assets as part of your GHG inventory. Leasing buildings from an outside company or through fellow agencies still requires the emissions for the usable space to be reported. Usable space is the area contained within the walls of the space you occupy and does not include common space: lobbies, public corridors, and restrooms.

> *Example:* The Department of Transportation is reporting to The Registry and leases seven different offices from building managers where the utilities are paid as part of their monthly rent. The agency does not receive utility bills or electricity consumption information. The agency has been able to contact and receive the annual electricity consumption for five of the office buildings where it is located. In these instances the agency will calculate its GHG emissions based on the methodology in the GRP using its percentage of the building's square footage and the overall energy consumption to determine its annual electricity data. Two of the agency's building managers will not disclose the energy information or utility bills for their buildings to the agency. In these instances the agency can report using default values provided by The Registry's alternate electricity estimation methodology. The agency plans to write specific requirements into future leases that will require building management to provide annual electricity consumption and square footage information as part of the lease agreement.

15 buildings managed by DGS: *Agency must report emissions by obtaining relevant emission records from the department that owns and operates these buildings.*

40 buildings owned by agency: *Agency must track and manage the emissions records to report emissions associated with buildings it owns and operates.*

Five buildings leased through private companies: *Agency must obtain relevant emission records from property management and report associated emissions for its leased office space.*

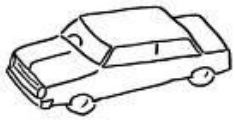
Five buildings leased through private companies: The *agency is able to obtain relevant emission records and square footage of office space when it does not occupy the entire building. The agency will report all associated emissions for its leased office space.*

Two buildings leased through private companies: *The agency cannot obtain relevant emission records from property management. The Agency still must report associated emissions but may use Registry's alternate method given that it can demonstrate that it was unable to retrieve the necessary data from the landlord.*

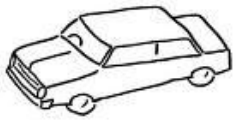
2.5.2 Leased Vehicles

When reporting under operational control, the lessee would typically report the emissions associated with leased vehicles. However, in most cases, the agency leases vehicles directly from DGS. In these cases, DGS is already reporting the GHG emissions for these vehicles. The agency that is leasing vehicles from DGS may request vehicle GHG emissions data in order to use for its own specific internal cost control measures.

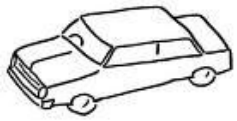
> *Example:* In 2008, the Department of Water Resources had a small fleet of cars that it used to visit sites throughout the year. 20 vehicles were directly owned by the department, and 10 were leased to the agency by the Department of General services. In addition, the Department of Water Resources checked out 13 vehicles for day or weekly use from an available vehicle pool that is managed by the Department of General Services. When setting up its boundaries according to operational control, the Department of Water Resources will report for all of the vehicles that it owns (20). The Department of Water Resources will not account for the vehicles that it leases from DGS or checks in and out on an ad hoc basis. These vehicles will be reported by the Department of General Services as part of its vehicle fleet, as it maintains and controls them on a long term basis.



20 vehicles owned and operated by Agency: *Agency must track and manage the emissions records to report emissions associated with vehicles it owns and operates.*



10 vehicles owned by DGS but leased to the Agency: *Agency may obtain relevant emission records from DGS or track them internally for their own purposes, but DGS will report these emissions in DGS's inventory.*



13 number of cars that are checked out from DGS' vehicle pool on an ad hoc basis: *Agency will not report emissions from these vehicles as the DGS maintains control over them on a day to day basis.*

2.5.3 Rental Cars

Emissions from vehicles that are rented for business travel are Scope 3 emissions. Members are not required to report Scope 3 emissions as part of The Registry's program. Vehicles rented for a one year period or longer will fall under Scope 3 emissions and can be reported optionally. If however, the vehicles are leased from anyone other than DGS, and included in your vehicle fleet, you must report it as part of your Scope 1 Direct Mobile Emission sources.

2.5.4 Employee-owned Vehicles

GHG emissions from travel done in employee-owned vehicles, in the form of employee commuting and business travel, are also considered Scope 3 and are not required to be reported under The Registry's program. Driving that occurs in an employee owned vehicle even under the direction of agency management is not required to be included as part of an agency's inventory. An employee-owned vehicle does not fall within an agency's boundaries because it is owned, operated, and maintained by the employee on a day-to-day basis.

2.6 Emission Sources Unique to State Governments

In addition to the emission sources described in the GRP, agencies may have additional unique emissions sources within their reporting boundaries.

2.6.1 Hazardous Waste Sites

Governments may control the cleanup of uncontrolled hazardous waste sites; e. g. Superfund sites in the US. These sites are often taken over and managed by the environmental arm of the government. The clean-up associated with these sites is usually contracted out to third parties. Because contracted services fall within Scope 3 emissions and outside of an agency's operational boundaries (the agency most likely does not conduct the day to day operations or set HSE policies for the contracted organization), the emissions from the contractor's services and equipment are not reported by the agency and would fall under the contractor's emissions profile instead. Any equipment; however, that belongs to the agency, e.g., mobile emissions from a trailer, that may be present to assist government employees with the observation of activities at the site must be reported by the monitoring agency.

2.6.2 Operations in conjunction with the Federal Government

Some types of government or agency operations can be taken over by the federal government in times of national emergency, e.g., the National Guard. Should this happen, the emissions from the operation are treated the same as for a contracted service. In this case; the federal government is setting the HSE policies for the Guard, and as such would report the emissions. The state/provincial/territory government or agency is not responsible to report the emissions associated during time periods where the federal government has assumed control.

3.0 Collecting Emissions Activity Data

Building your GHG inventory begins with identifying the types of emitting activities of your organization and collecting relevant activity data, i.e. fuel purchase records, utility bills, etc. The activity data you collect is used to calculate your organization's GHG emissions so it is crucial that the data sets are complete and accurate.

You will need your annual energy consumption totals on a variety of levels for all of your emission sources in order to calculate and report your GHG emissions. To compile your annual energy consumption totals, you will need back-up documentation for all of your sources. Examples of back-up documentation include twelve months' of utility bills, vehicle records and registration, and fuel usage. This back-up documentation will contain your monthly energy consumption totals, which you will use to aggregate your annual emissions totals, i.e. gallons of gasoline consumed/year. Be sure to maintain clean records of your back-up documentation as it will serve as part of the audit trail that your Verification Body will use to corroborate your emissions report with your true emissions. The information may be found through an agency or the state's vehicle tracking system, utility tracking system, through local utilities, and various hard copies.

Every agency has different processes for collecting and storing their data. Identifying what emissions data is already being accounted for, and how, is the first step in developing your GHG data management system. To reduce the reporting burden and maximize your benefits of membership, agencies should develop their data management systems and procedures to obtain, at a minimum, the supporting documentation that is needed to prove their emission statements as part of a regular and internal process.

Effective data management is key to building a GHG inventory and provides numerous other benefits to a reporting organization:

- Minimize data conflicts and inconsistencies
- Increased organizational efficiency
- Ability to assess how expenditures are linked to operating costs
- Provide accurate information for decision making
- Effectively retrieve data for both internal applications and external communication
- Meet compliance requirements

Assessment: Preparing to Build an Agency Inventory

Your agency must carefully analyze where the bulk of your emissions reporting data is in order to realistically implement a state government or state agency reporting scheme. The following questions will assist you in setting up your GHG emissions inventory and analyzing your existing data management systems:

1. Is there a central point of contact(s) who can coordinate an agency's efforts, ensuring that several facilities and/or agencies' data sets are completely collected?

2. What are your major sources of emissions:
    a. Fleets? Buildings? Power Generation?

3. Where is emissions data currently being tracked? Who is tracking it?

4. Does each administration, agency or facility have access to their own data?
    a. *Ex. Bills, gallons of fuel used, etc.*

5. Is any of your emissions data in a central database or electronically managed system?

6. Who manages any databases that track agency information?

7. Who has access to the database(s)?

8. Can the needed emissions data be accessed in a usable format from existing databases? Are different types of reports able to be queried? For instance, if several agencies' fuel purchases are recorded in one database, can an agency query for the annual fuel purchases for a single agency only?

9. Does your agency have an Office or Department of General Services (or other type of agency) that manages buildings, cars, and other equipment on behalf of other agencies?

10. What checks and balances are already in place to organize date collection and entry?

11. What checks and balances can you put into place to organize date collection and entry?

12. Are any new tools in the process of development that can be used to track emissions data?

13. What other resources are in place that could assist with data management?

Tip: Build on Existing Systems

Incorporating GHG emissions data into your data management systems doesn't have to mean a complete overhaul of current procedures or expensive new software. Upgrading your systems in the simplest form only involves analyzing your agency's current accounting systems and including additional fields that will track the new information you need. For example, where you are recording the amount spent on electricity each month is it possible to create a new field to also enter your GHG information? In this case you would also note the kWh of electricity used each month. Adding on to your current systems keeps you from unnecessarily reinventing the wheel and maintains what currently "works" for your agency.

3.1 Common Agency Sources and Activity Data

Sources of greenhouse gas emissions for state agencies typically include: electricity usage in buildings, natural gas used for heating or cooling, gasoline or diesel used in mobile sources, and refrigerants used in cooling systems. In addition, some agencies may have other emissions related to unique activities e.g., N_2O from fish hatcheries, propane for back-up generators, etc. The following table lists the most common emission sources for agencies and the corresponding GHG gases that need to be reported.

Figure 3.1 State Agency GHG Emissions

Note: This list is intended to be used as an aid only. Not all agencies will have each source or GHG listed. Also, some agencies may have other types of GHG emissions that are not listed below. Please email The Registry at: help@theclimateregistry.org if you identify additional sources or GHGs that should be included on this list.

Emissions Type	Emissions Source	CO_2	CH_4	N_2O	HFC	PFC	SF_6
Indirect Emissions	Purchased Electricity	√	√	√			
	Purchased Steam	√	√	√			
	Electricity Use (Utility-Direct Access)	√	√	√			
Indirect Emissions *- from Electric Power Production*	Transmission & Distribution Losses	√	√	√			
	Wheeled Power Losses	√	√	√			
Mobile Emissions	Buses	√	√	√			
	Fleet Vehicles	√	√	√			
	Agricultural Vehicles	√	√	√			
	Boats	√	√	√			

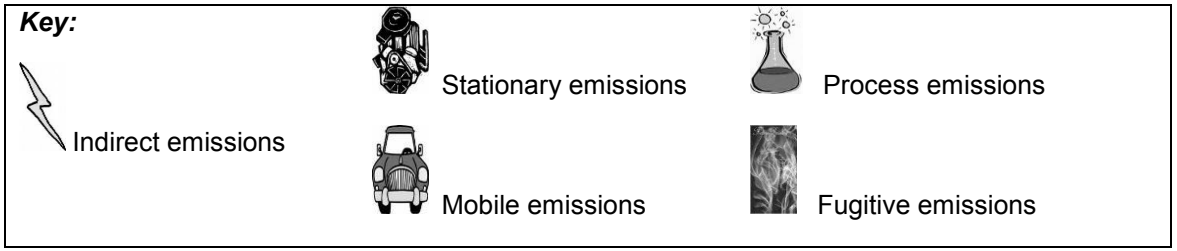
Emissions Type	Emissions Source	CO_2	CH_4	N_2O	HFC	PFC	SF_6
	Mobile Equipment	√	√	√			
	On-Site Vehicle Use	√	√	√			
	Aviation	√	√	√			
	Acetylene Torch	√	√	√			
Mobile Emissions *- from Healthcare Facilities*	Ambulances	√	√	√			
Stationary Combustion	Heating	√	√	√			
	Electrical Generation	√	√	√			
	Boilers	√	√	√			
	Cogeneration	√	√	√			
	Generators	√	√	√			
	Building Natural Gas Use	√	√	√			
	Steam Generation	√	√	√			
	Laboratory Natural Gas Use	√	√	√			
	Food Prep Gas Use	√	√	√			
Stationary Combustion *- from Electric Power Production*	Power Generation (Boilers, Turbines, etc.)	√	√	√			
	Fuel Cells	√	√	√			
	Steam Production	√	√	√			
	Emergency Generators	√	√	√			

Emissions Type	Emissions Source	CO_2	CH_4	N_2O	HFC	PFC	SF_6
Stationary Combustion *- from Healthcare Facilities*	Sterilization Boilers	√	√	√			
Stationary Combustion *- from Wastewater Treatment*	Digester Gas Combustion		√	√			
Process Emissions	Laboratory CO_2 and Dry-Ice Use	√					
Process Emissions *- from Electric Power Generation*	SO_2 /Acid Gas Scrubbers	√					
	CO_2 pass-through cleaning	√					
Process Emissions *- from Healthcare Facilities*	Medical CO_2	√					
Process Emissions *- from Wastewater Facilities*	Anaerobic Waste Treatment		√				
	Nitrification/ Denitrification			√			
	Effluent Discharge to receiving waters			√			
Process Emissions *- from Waste Management*	SO_2 Scrubbers	√					
Fugitive Emissions	CO_2 and Dry Ice Transport and Storage	√					
	Electrical Breakers						√
	Fire Suppressants	√			√	√	
	Refrigerants				√	√	
	A/C Systems				√		
	Natural Gas Transmission	√	√				

Emissions Type	Emissions Source	CO_2	CH_4	N_2O	HFC	PFC	SF_6
	N_2O Storage			√			
Fugitive Emissions *- from Electric Power Generation*	Coal Handling and Storage		√				
	Natural Gas Transmission	√	√				
	Vented Gases	√	√				
	Electrical Switchgear and Breakers						√
Fugitive Emissions *- from Healthcare Facilities*	CO_2 Storage and Transport	√					
Fugitive Emissions *- from Wastewater Treatment*	Septic Systems		√				
Fugitive Emissions *- from Waste Management*	Transfer and Storage of CO_2 for pH control systems	√					

Figure 3.2 Where to find the data?

Listed below are the most common emission sources of GHGs for agencies, the data that should be collected for these sources, and where you might find the data storage. This list is not comprehensive, but should serve as a starting point for sources that likely appear in your inventory.



Emission Source	Type of Emissions	GRP Chapter	Data Requirements	Potential Data Source
Buildings (All state managed facilities)		12 14 15 16	1) Report CO_2, CH_4 and N_20 using the annual consumption of: • Electricity (kWh) • Natural gas (mmBtu or scf) • Diesel, heating oil or other fuels For imported steam or district heating or cooling, you may also need… 2) Report refrigeration and HV/AC systems: • Type of refrigerants (See Chapter 16 of GRP) • Type and quantities of AC equipment • Total refrigerant charge • Annual leak rates	• Utility provider • Accounting Department • Purchasing or Procurement Department • Property or Facilities Management • HVAC maintenance contract manager
Vehicle/Aircraft Fleet (vehicles in agency managed fleet)		13 16	1) Report CO_2, CH_4 and N_20 using the annual consumption of the following by vehicle: • Fuel consumption or mileage data by vehicle/vehicle type/vehicle year 2) Report HFCs from vehicle AC systems: • Type of refrigerants • Number and type of vehicles in fleet • Total refrigerant charge • Annual leak rates	• Fleet Management • Accounting Department • Purchasing or Procurement Department
Water & Sewage (treatment, pumping)			1) If water and sewage services are state controlled/partially owned, report the CO_2, CH_4 and N_20 using the annual consumption of the following by facility: • Electricity • Natural gas • All other fuels 2) CH_4 and N_20 process emissions from water/sewage treatment • Guidance in development by California wastewater agencies •	• Utility provider that transmits the power source (e.g., investor-owned utility, municipal utility) • Accounts Payable • Dept Public Works Dept • Municipal Utility District, e.g. EBMUD

Generators (May be back-up generators)		12	1) Report CO_2, CH_4 and N_20 using the annual consumption of the following by source: • Electricity • Natural gas • Diesel	• Bulk Fuel Purchases • Maintenance/testing records
National Guard (vehicles, buildings, lands)		12 13 14 15 16	1) See buildings 2) See fleets	
Fire Protection (vehicles, fire suppression systems)		12 13 14 15 16	1) See buildings 2) See fleets 3) Report HFCs from fire suppression systems and fire extinguishers: • Type of suppressants • Number and type of vehicles in fleet • Total charge • Annual leak rates	• Maintenance records • Coolant purchase records
Road Construction (vehicles, cement & asphalt production)		12 13 14 15 16	1) See buildings 2) See fleets 3) Cement production • Mass balance of sorbent used ($CaCO_3$)	

Laboratories		12 14 15 16	1) See buildings 2) Gases for testing: • N_20 • HFCs, PFCs	• Bulk Fuel Records
Universities		12 13 14 15 16	1) See buildings 2) See fleets 3) See generators	
Parks and Lands		12 13 14 15 16	1) See buildings 2) See fleets 3) Fish Hatcheries • Potential N_20 • Potential CH_4 from fish food	
Other (Emissions that may not be captured in above categories)		12 13 14 15 16	Examples may include: portable equipment, lawnmowers, weed-whackers, leaf-blowers, scissor lifts, etc.)*:* • Fuel consumption • Hours of use • Report for fire suppression systems, data necessary to calculate emissions of PFCs	• Dependent upon emissions source • Maintenance records • Air permits

3.2 Data Management Challenges

Many state agencies' major sources of emissions come from their electricity usage and the fuel that is combusted in their fleet vehicles. Determining how to track down utility bills for information that has never been recorded before and deciding how to report fleets with a wide range of vehicle years, makes, and models can be difficult for agencies just starting out. You can find several options below that can simplify tracking down necessary data and reporting these two sources of emissions.

3.3 Reporting Indirect Electricity Consumption

In evaluating your data management systems you should have already analyzed the data that is currently recorded in your systems. If you are not currently managing your electricity data there are several options available that can assist you in finding the data.

- **Adjust your in-house data collection procedures –** Is it possible to require staff to enter the amount of electricity that is consumed each month in your standard accounting procedures by adding a new data field? If you are able to adjust your internal procedures, i.e. incorporate the Kwh used each month in addition to the dollar amount billed, you can easily query your own databases for annual electricity consumption moving forward.

- **Access annual electricity consumption directly from utilities -** If you are unable to update your existing systems or you are lacking previous data from before you integrated a change; it is possible that your utility providers can provide you with an annual summary of your electricity usage, usually by account number. Some utilities offer this service online through the customer service portion of their website. If you are a larger agency that has multiple accounts, your utility may have a customer service representative who can provide you with this type of information.

- **Request electricity consumption for leased buildings –** If you lease office space and your utility purchases are included as a part of the rent you pay each month, you still need to obtain these records so that you can report the associated emissions. You can request that the property manager provide you with the annual energy consumption total for your building or ask for their permission to contact the utility directly in order to access the needed information.

- **Utilize a third party vendor to track your electricity consumption –** Some companies provide free utility management software to governments and their agencies that tracks their utility information electronically in exchange for recovered revenue from incorrect or overpaid accounts.

Tool: Sample letter to request electricity information authorization from landlord

In the appendix there is a sample letter you can modify if you need to request emissions information from a landlord. It's a good idea to make sure that the letter includes language that grants authorization for the term of the lease, minimizing your need to request this information each year.

Tip: Incorporate emissions disclosure language into your leases

When the time comes to renew your leases you can include wording that requires your landlord to provide you with the emissions information that you'll need on an annual basis**,** diminishing the need to search it out each year.

3.4 Reporting Fleets

Many agency fleets are not made up of similar vehicles; they usually aren't bought in the same year and are not the same make and model. Providing detailed supplementary information this for large, diverse fleets may not be realistic. While identifying each vehicle's year, make and model, their corresponding annual fuel consumption, and their annual miles driven, will enable you to report these non-uniform fleets most accurately, there are other options if this is not possible. The following alternatives identify how you can report your fleets:

- **Report each vehicle as an individual emitting activity according to its year, make and model, with its corresponding annual fuel consumption and mileage.** This requires that you know all of the required pieces of information for every vehicle and can enter them individually into the software. This option works best if your fleet is small to medium sized and you can easily retrieve the necessary information.

- **Report vehicles based on their year and the type of fuel they use.** If you have large groups of similar vehicles that use the same type of fuel, i.e. gasoline light duty trucks, you can report these groups of vehicles together in the software according to their year.

- **Report groupings of vehicles according to EPA Tiers.** For agencies that have large fleets reporting to the level of detail required by either of the first two options may not be feasible. Instead, you can group together vehicles within a range of years according to the EPA Tiers: Tier 0, cars from the early 1980s-1994; Tier 1, cars from 1994-2004; Tier 2, cars from 2004-2006. For example, an agency could report 35 gasoline passenger cars from years 1995-2001 as one emitting activity instead of reporting them all as separate vehicles.

- **Report CH_4 and N_2O using simplified estimation methods.** You can also report the CH_4 and N_2O emissions data from your vehicle fleet using a simplified estimation method if you are unable to obtain the year, make and model information for your vehicles, and/or you are unable to obtain annual miles driven for your fleet vehicles (granted that the emissions total less than five percent of your entire inventory, see GRP Chapter 11 for more information on Simplified Estimation Methods).

It can be cumbersome and time consuming to access specific vehicle information for larger fleets. While providing more detailed information will give your inventory an increased level of accuracy, it may not justify the efforts that you must take in order to find information that isn't already tracked in a usable format. Over time you can always identify missing details and work to incorporate them into your data management systems so that you can report your fleet more accurately in future years.

TIP: Create an Inventory Management Plan

An Inventory Management Plan (IMP) is essential because it documents and communicates your geographic and organizational boundaries and describes your organization's strategy for developing a verifiable GHG emissions inventory. It helps to:

- Ensure consistency in processes for collecting, calculating, and maintaining GHG data across your organization
- Promote internal communication & centralize institutional knowledge (which is especially important if you are using an intern or consultant)
- Promote external communication
- Inform an accurate quote for verification services by providing an accurate representation of your operations

An IMP is a powerful tool that can save you both time and money by presenting your inventory in an organized and streamlined fashion to your Verification Body and provide program continuity in the event of staff changes. You can download a customizable version of The Registry's sample Inventory Management Plan in the Reporting Toolkit/Reference section of The Registry's website.

4.0 Verification

One of the goals of the unified GHG inventory is to create a unified contract for Verification services for all State agencies. Currently, Cal EPA and DGS are investigating the procurement of a unified contact for Verification services. It is believed that a single contract for Verification services for all agencies using CRIS data would be the preferred method for Verification. This is preferable to each agency individually procuring Verification services and it is possible that a single state-wide Verification contact can provide significant cost-savings to the State annually.

4.1 The Verification Process

Your Verification Body (VB) and Lead Verifier will complete the following in order to ensure that your emissions report is verifiable and complete:

1) Assess your conformance with The Registry's requirements
2) Assess the completeness of your emission report
3) Perform a risk based assessment
4) Develop a sampling plan of your data and facilities
5) Evaluate your GHG information systems and controls and emission estimates against verification criteria

Figure 4.1 below explains in more detail the specific steps in the verification process.

Figure 4.1 – Steps in the Verification Process

1. Member selects a VB: Member contacts one or more Registry-recognized VBs to discuss verification activities. Member selects a VB to verify its GHG emissions and begins to negotiate contract terms.

2. VB Submits Case-Specific Conflict of Interest Evaluation Form: After a Member chooses a VB, the VB must submit a Conflict of Interest (COI) Evaluation Form to The Registry to establish that the likelihood of a COI between parties is low.

3. Registry Sends Notification of COI Evaluation to VB: The Registry reviews the COI Evaluation Form to determine the level of risk associated with the proposed participant/verifier relationship and notifies the VB of its assessment within 15 business days.

4. VB & Member Finalize Contract: Once The Registry has determined that a COI between a Member and VB is not likely, the VB may finalize their contracts with The Registry Member.

5. VB Conducts Verification Activities: VB follows the guidance in the GVP to evaluate a Member's annual GHG emission report.

6. VB Prepares Verification Report and Verification Opinion for Member: The VB prepares a detailed summary (Verification Report) of the verification activities for the Member. The VB also prepares a general Verification Opinion for Member's review.

7. VB & Participant Discuss Verification Report and Opinion: VB meets with Member to discuss Verification Report and Opinion.

8. VB Completes Verification Form via CRIS: Once authorized by the Member, the VB completes the Verification Form via CRIS. The Member can upload a Verification Opinion with digital signatures via CRIS or mail a hard copy to The Registry.

9. Registry Completes Reporting Process: The Registry reviews the Verification Opinion and evaluates the Member's emission report. Once accepted by The Registry, the Member's emission report becomes available to the public via CRIS.

Please refer to The Registry's GRP and GVP for a detailed outline of the verification process and requirements.

4.2 Verification Overview

The Registry's voluntary reporting program requires that Members have their emissions reports verified by an independent third party each year.

4.3 Verification Requirements

The Registry's program requires annual third party verification of all Scope 1 and Scope 2 emissions. Note that the standard guidelines in the GVP require verification of a Member's report *at the entity level* meaning, all of the facilities that fall within your boundaries must be

verified by the same Verification Body, ensuring the validation of a complete emissions report. Only one VB can verify an agency's overall emissions report, either through one master contract or through several sub-contracts with the same Verification Body.

4.4 Benefits of Verification

Verification has numerous benefits for Members, including:

- Ensuring that an inventory is complete, transparent, and accurate
- Providing accountability to stakeholders
- Placing credible data in the public domain
- Relating to mandatory reporting requirements-
    - Demonstrating required compliance
    - Establishing monitored compliance

With your verified report you can feel confident that your data is accurate, transparent and credible and can stand up to public scrutiny. You can use your report to develop and implement climate change strategies, identify reduction opportunities and communicate your efforts to stakeholders and constituents.

4.5 Incorporating Verification into Agency Processes

There may be several options for procurement within your agency and government. Procurement processes vary from agency to agency and it can sometimes take substantial time to complete the contractual process before verification activities can even begin. Therefore, selecting the procurement method that best meets your agency's needs by examining how verification fits into your procurement processes is crucial.

Identifying how procurement is handled within your agency and determining what types of expedited services, if any, are available will help you to plan ahead in securing a contract with a ANSI-accredited, Registry-recognized VB. For example, you may have certain expedited processes that will enable you to side step a formal, competitive bid process.

The Assessment below will help you to analyze your options, determine any early preparation that may be required, and facilitate the best avenue for procurement.

Assessment: Where Does Procurement Fit For Your Agency?

1. Does your agency have its own dedicated procurement division or staff?
2. If not, who is the appropriate staff person to handle the procurement process, putting out a bid, establishing the contract, etc.?

3. What are the various options for procurement?
4. Are any dependent on cost (i.e. under a certain amount does not need a formal bid)?
5. What is the time frame for each of the various options for procurement?
6. Is verification of GHG services an established contract within your department or agency's procurement department? If not, where would this potentially "new" type of service fit in? How would a new service be added?
7. Are any ANSI accredited Registry-recognized VBs already on approved vendor lists?
8. How would an ANSI accredited Registry-recognized VB be added to a vendor list? (The Registry can pass this information on Recognized VB if you pass it along)
9. Is there an online service that the agency or VB must utilize as part of the procurement process?

Whichever process you use, your RFP should address what your agency needs in a GHG VB without being unduly restrictive. It also may make more sense for your agency to contract for more than one year's worth of verification in the first year to keep the time spent on verification the smallest possible in future years.

4.4 Common Resources

Tool: Verification resources on The Registry's website

The Registry has a number of resources that will aid you in identifying strategies to keep the costs of verification low and contract with a VB. These can be found in the Verification/Verification Tips and Resources section on The Registry's website:

- Guidance on Verification Cost Factors
- Internally Reviewing Your CRIS Report
- Overview of the Verification Process
- Verification FAQ's
- Sample Request for Proposals
- Sample Contract

Tip: Include relevant information in your RFP

When reaching out to VBs it's imperative that you include as much information about your agency as possible so that the bids you receive are more indicative of the true cost to verify your emissions inventory. Your RFP should include:

- Your agency's Inventory Management Plan
- Your CRIS emissions report
- A description of your own internal QA/QC and auditing procedures
- Any other relevant information

5.0 Benefits of Reporting GHG emissions

Reporting to The Climate Registry demonstrates your agency's commitment to calculate GHG emissions and have them independently verified and registered in a public database. However, there are also many benefits of reporting to The Registry. Through the process of building your GHG inventory, your agency will:

- **Establish an accurate accounting of the scope of your operations.** Building your inventory requires you to gather a variety of data, e.g. electricity and fuel use, mobile and stationary sources, as well as from other potential sources such as laboratory gases, refrigeration and more. Data will be publicly reported by facility, and aggregated according to your boundaries to establish your agency's total GHG footprint.

- **Open new paths of communication across your agency's operations.** In many cases reporting to The Registry will represent the first time that the activity data needed to calculate GHG emissions are reported into one central database. Reporting may therefore require an unprecedented level of coordination and collaboration across your agency and others. With these new communication channels open, agencies can foster the creation of innovative data collection and emission reduction partnerships.

- **Identify opportunities for cost savings.** Most organizations know how much money they are spending on energy and supplies, but few are aware of the amount they are purchasing. To calculate GHGs, the amount of energy you use must be identified. Because activity data information often comes from fuel and energy purchase records, doing an inventory may be the first time an agency aggregates and reconciles its annual purchases against its consumption. Building a GHG inventory will allow for energy use comparisons of similar facilities, identifying those facilities that are operating inefficiently and thus good candidates for cost-effective efficiency upgrades that result in GHG emission reductions and energy cost savings. Additionally, over time the inventory can be used to bring to light inefficiencies that may be reduced through the implementation of cross-agency initiatives.

- **Demonstrate environmental leadership.** As public service organizations, state agencies send powerful messages when they lead by example. Publically reporting the GHG emissions footprint of a state agency demonstrates the importance of GHG emissions inventories and efforts to reduce emissions through civic actions. Agencies that chose to

report also have a stronger ability to encourage organizations within their jurisdictions to report their GHG emissions.

The detailed GHG emissions report that you develop as a Registry Member will provide a detailed "map" of your GHG emission sources so that you can develop realistic reduction plans for your organization. Crafting an accurate GHG inventory is a crucial first step in any effort to mitigate climate change; doing so places your agency in the forefront of environmental best practices.

5.1 Goal of Reporting Emissions

Different agencies may have different motives for compiling a GHG inventory. Clarifying your own objectives will help you to better communicate the value to your organization and prepare your action plan.

For instance, your goals may be to:

- Understand the overall picture of your agency-wide emissions
- Analyze the individual footprint of each facility
- Provide accountability to the general public
- Fulfill an executive directive to benchmark performance
- Clarify who has the ability to manage & reduce emissions for which sources

Understanding how your agency intends to use its resulting emissions data will guide the implementation of your agency's reporting program. With clearly established goals, your agency can make essential decisions regarding organizational boundaries and data management procedures that achieve your overall objectives and improve the entire system. The Registry's program provides some flexibility when making boundary decisions. Determining your boundaries upfront makes this decision-making process straightforward.

Assessment: Identifying Your Agency's Goals – Turn this into a tear out sheet or worksheet that an agency can complete according to California specifically?

Your reporting goals should be clearly defined before you begin the reporting process, helping you to interpret program requirements and allocate necessary resources. In many cases reporting to The Registry will overlap with some of your existing initiatives and programs. This assessment will help you identify your agency's goals for reporting and identify other programs that require similar resources.

1. Are you subject to any legislation that addresses climate change?
    a. Are there reduction targets in place for your government or agency? If so, what are the targets?
2. Does your government have a benchmarking program for facilities or fleets already in place?
    a. Does your agency collect activity data from these activities? If so, what?
3. Does your agency have any internal sustainability targets? If so, what?
4. Are you implementing any energy efficiency programs or initiatives? If so, how do you demonstrate compliance?

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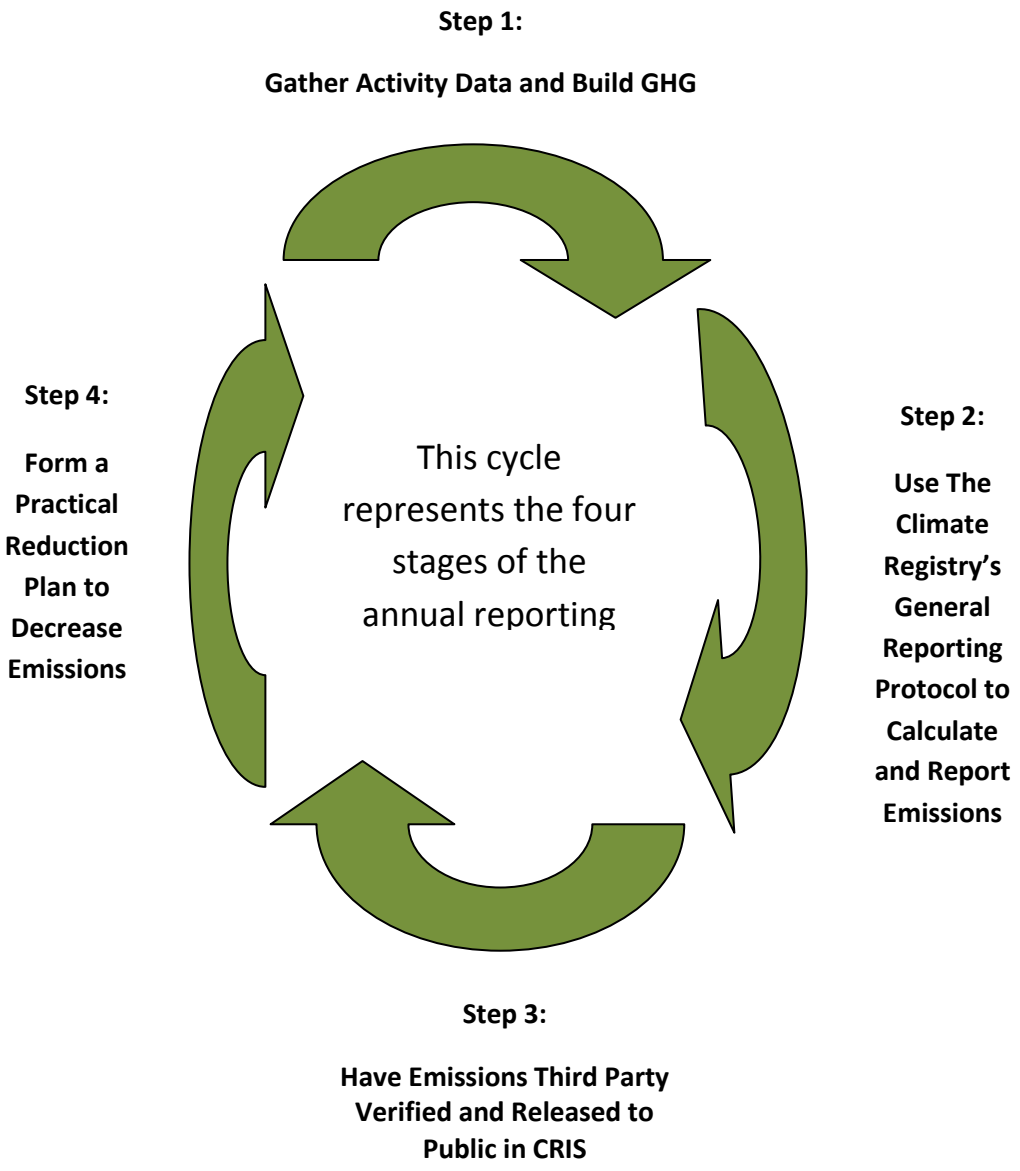
5.2 Building Your First Greenhouse Gas Emissions Inventory

In your first year, expect to spend a significant amount of time and effort assessing your emission sources, creating or updating your data management system, refining your organizational processes needed to gather accurate information, training your colleagues, and initiating new contracts with service providers. However, if you establish procedures that can be repeated from year to year, you can expect the amount of effort required to compile the inventory to decrease by about a third from your first to your second year, and by about half from your first to your third year.

Successful agencies stay flexible throughout the annual reporting cycle process, outlined in Figure 1.1 below, as they learn by doing and work to make GHG reporting a part of their business-as-usual practices.

Figure 5.1 - The Annual Reporting Cycle



5.3 Reporting Timeline

By joining The Registry, your agency has committed to report its GHG footprint each year to The Registry by June 30 and have it third-party verified by December 15. This commitment may compete with other projects and goals, however given the public nature of the reporting, it will be paramount that your agency meet the program deadlines to help maintain its credibility as a leader on GHG issues.

Your agency will need to understand, allocate and prioritize the necessary resources along with other priorities and events, e.g. the end of the fiscal year, annual reports, agency meetings, and budgets so that you are able to meet The Registry's program requirements. A recommended timeline is listed in Figure 5.1. Note, however, that many of these dates may need to be adjusted based on the needs of your respective agency. For instance, many agencies will benefit from beginning the procurement process, often the most time-consuming step, earlier than suggested in the timeline so they are able to contract with a Verification Body and complete all of the verification activities in time for the verification deadline.

Figure 5.1 - Reporting Timeline

Figure 5.1 is a recommended timeline for Members preparing to report their GHG emissions to The Registry:

EMISSIONS YEAR	**July**	Make Boundary decisions after taking the Members-Only Registry training "Building a Verifiable Inventory for Registry reporting" and read the GRP.
	August-October	Create greenhouse gas inventory team and conduct internal trainings and workshops so that data can be gathered beginning the first of the year Analyze data management systems[1] and incorporate changes to support the reporting of all 6 Kyoto GHGs for North American operations at the facility level
	October - January	Receive Climate Registry Information System (CRIS) access and take CRIS software training
REPORTING YEAR	**February - April**	Gather emissions activity data and begin procurement process
	May	Participate in "Prepare for Verification" webinars.
	May - June	Report data into CRIS and begin contracting with a Registry accredited

[1] A GHG data management system is the execution of policies, practices and procedures that annually track an organization's GHG emissions data.

		Verification Body. **Reporting Deadline:** *Data must be entered into CRIS by June 30th*
	July - October **November - December**	Complete verification activities. Complete corrective actions for emissions report and submit final inventory to The Registry. **Reporting Deadline:** *Data must be verified by December 15th*
	January - June	Verified greenhouse gas emissions reports are reviewed internally by The Registry and made available to the public online.

Tool: Registry Online Trainings

The Registry offers a three-part training series with sessions conducted twice monthly. Any staff members of your organization can take part by registering through The Registry's online calendar at www.theclimateregistry.org

1. Building a Verifiable Inventory for Registry Reporting - *Presents a general overview of the basic principles of GHG inventory design and management. This online training also includes a brief overview of The Registry's program and reporting requirements.*

2. Using CRIS to Report Your GHG Emissions - *Provides an overview of navigating and using The Registry's emissions reporting software, CRIS to input your organization's GHG emissions*

3. Prepare for Verification - *Designed to help all Members prepare for verification by reviewing the process and steps, hearing "lessons learned" from those who've previously completed verification, and provide the opportunity to hear from accredited Verification Bodies (VBs).*

6.0 Future Steps

6.1 Using the Data

Currently, The Registry encourages you report your emissions at the facility level. Building your inventory at this level of detail gives you access to reports that contain both an overall picture and up close look at your emission sources. The data in these reports can be used to formulate and implement energy efficiency programs, GHG reduction strategies, and climate change mitigation plans at a variety of levels within your organization. Reporting annually provides a continual set of consistent data so that you can track the success and implementation of your reduction programs over time. Some agencies may also want to report emissions at the source level in order to have a higher level of detail in GHG reporting.

6.2 Agency Specific Metrics

Performance metrics provide information about your agency's direct and indirect emissions relative to a unit of operational activity, input, or output. You may use performance metrics to serve a range of objectives in your agency, including: evaluation of emissions over time in relation to targets; facilitation of comparisons between similar state agencies or other public sector organizations; and improving public understanding of your agency's emissions profile over time.

Examples of emissions metrics that a state agency might use to analyze its emissions over time include:

- GHG/PYs (Person Years)
- GHG/square foot
- GHG/1000 cars and trucks
- GHG/Dollar of Annual budget
- GHG/Agency

In collecting and reporting GHG emission data at the facility level or source level, the State will have the ability to track specific metrics annually and over time. It is important to track these metrics to benchmark reporting efforts across all agencies.

6.3 Developing a Climate Action Plan

Many state agencies have internal GHG reduction goals that are set for their agencies through legislation, climate change initiatives or advisory groups. In response to these mandates, many states, provinces, and territories have developed or are in the process of developing climate action plans. These plans are integral to forming short and long term strategies to deal with the impacts of climate change. Reporting to The Registry strengthens climate action plans by assisting agencies in tracking relevant data to evaluate progress in meeting their emission reduction goals and identifying areas where technical advancements and efficiencies are most appropriate. Reporting also provides facility-level data that can be analyzed and rolled up at the entity level for a broader analysis, such as for tracking state agency building energy consumption.

6.4 Making Informed Policy Decisions

Once all agencies have reported, the State will have an accurate and established BENCHMARK OF TOTAL GHG EMISSIONS FROM State Operations. With this information, inefficiencies can be identified, there is increased understanding of where reduction opportunities exist, and greater ability to make more informed policy decisions. Using its inventory, the State is prepared with concrete data for which to base sound legislation and conduct cost-benefit analyses for new initiatives. For strategic planning purposes, the State can make important decisions about how to go about decreasing GHG emissions from high emitting agencies.

6.5 Registry Member Services and Support

The Registry offers a variety of services and valuable resources to assist states in building their GHG emissions reports, including:

- User-friendly software and technical support to simplify tracking GHGs
- Expert educational services
- Customized, cost-effective assistance
- Sector Specific User Groups
- Annual Reporters Meeting
- Regional Events

You can contact Member Services at any time by calling 1-866-523-0764 x3 or emailing help@theclimateregistry.org.

7.0 Conclusion

This Guidance provides a common framework for State of California agencies in order to complete a unified, state-wide GHG inventory. In completing a unified GHG inventory, the State may take actions to reduce operational costs and solidify its status as a State that leads in environmental efforts. Success of the state-wide inventory depends upon the efforts of the individual agencies tasked with collecting and reporting GHG emissions data. The Registry is committed to working with all of these agencies to help the State complete its GHG inventory.

State agencies that report to The Registry have a tremendous opportunity to examine their emissions sources, reflect on climate change policies, and provide leadership in the fight against climate change. The Registry commends the strong efforts and environmental leadership of State of California agencies and will continue to work on eliminating common reporting issues and streamlining the reporting process.

Appendix A:
State of California Agency Case Studies

CALIFORNIA DEPARTMENT OF WATER RESOURCES

Snapshot:

- Manages and maintains water resources and long-term electricity contracts
- 1000 employees
- 30 facilities, largely hydro-electric and spread across the government's jurisdiction
- 1000 vehicles

PROFILE

The California Department of Water Resources (DWR) is a department that manages water resources in partnership with other state agencies. Its focus areas include managing the maintenance and design of the California's Water Project (which serves 23 million citizens and 775,000 acres of agriculture), providing legislative guidance, creating recreational opportunities, educating the public, providing flood safety services, and offering financial and technical support to regional and local water planners.

DWR has over thirty facilities, including hydro-electric dams, and a vehicle fleet of over 1,000 vehicles. DWR owns some of its facilities under the Region's Water Project and leases other facilities from the Department of General Services (DGS) and private lessors.

REPORTING HISTORY

DWR began voluntarily reporting its GHG emissions in 2007 under operational control, and is currently in the process of reporting its 2008 emissions.

Because it manages electric power assets, DWR is required to use both the General Reporting Protocol and the Electric Power Sector Protocol, adding to the data collection requirements of the agency.

VERIFICATION

A handful of approved Verification Bodies were already pre-qualified as vendors and appeared on the government's Multiple Awards Schedule (MAS). DWR's own large internal contracts group was willing to help the agency execute the procurement process in order to contract with a Verification Body through the appropriate MAS schedule (DWR later shared its work with other state agencies to help facilitate their contracting process). DWR received two complete bids, which qualified the process through MAS in only 6-8 weeks.

DWR's selection criteria for hiring a Verification Body (VB) included the number of hours proposed, responses to specific questions that were included in the bid regarding prior experience with power generation and hydro facilities, and the VB's experience working with a large government agency or department with numerous emissions sources.

CHALLENGES

DWR management recognized that the immense size and geographic spread of DWR's operations made building the inventory a complex task. The main challenge was identifying all of the department's

operations and obtaining relevant data for each source (record keeping often varied from office to office) including electric power purchases and transmission & distribution losses. DWR took care to assign a competent three person team with complementary skills to create the inventory.

DWR experienced some of the same challenges as other state agencies, namely accessing data from a separate general services agency that manages some of DWR's buildings and vehicles, reporting emissions from multi-use facilities, and acquiring emissions data from leased facilities in which utility costs were included in the rent. Additionally, DWR faced the challenge of combining several data management system spreadsheets into one master list.

LESSONS LEARNED

- **Need for more integrated data management systems**. Through building its GHG inventory, DWR realized that the amount the department was spending on energy & utilities was not integrated with their actual energy and electricity consumption use. Thus, DWR identified a need for a management system that links financial information and energy use data to ease the ongoing reporting processes.
- **Contracting requirements may need to change.** Currently, there is no contractual obligation in any leases to require disclosure of energy use data. Most existing contracts, such as facility leases, lump utilities and rental payments together. To better understand its energy consumption and to provide incentives for implementing efficiency, DWR noted the importance of requiring the availability of energy use data in future facility leases.
- **The right project team is key to success**. Perhaps most important to completing a high-quality inventory is the personal interest and qualifications of the inventory team. DWR cited their team's expertise and institutional knowledge as critical to success. Because reporting is currently voluntary, and not part of a mandatory program, the project's success relies on a certain amount of goodwill from agency staff. DWR's team of motivated individuals were able to persuade the various facility administrators, whose job descriptions do not include reporting GHG emissions, to supply the necessary data.

BENEFITS

This emissions inventory was the agency's first time tracking its internal energy consumption. With this benchmark, DWR has prepared an emissions reduction plan through which it has identified relatively easy-to-implement measures that will result in energy and cost savings.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Snapshot:

- Cabinet-level agency with 6 subsidiaries
- 3000 employees
- 150 buildings: 1 of which is owned and 149 are leased
- 460 vehicles

PROFILE

The California Environmental Protection Agency (Cal/EPA) includes six Boards, Departments

and Offices that create a cabinet level voice for the protection of human and environmental health. The EPA's mission is to restore, protect and enhance the environment, and to ensure public health, environmental quality and economic vitality.

Over 3000 employees work within Cal/EPA and its operations span 150 buildings. Of these buildings, one is owned by Cal/EPA, and 149 are leased through the state's Department of General Services (DGS) or directly by Cal/EPA. Cal/EPA's building inventory includes labs, vehicle and equipment testing facilities, air monitoring stations, and warehouse and storage facilities. Cal/EPA also oversees contracts that manage the cleanup of uncontrolled hazardous waste sites, e.g. Superfund sites. Cal/EPA operates approximately 460 vehicles, half of which are directly owned by the agency, and half of which are assigned and managed by DGS. The agency's mobile sources also include a number of boats and forklifts.

REPORTING HISTORY

The Cal/EPA joined The Registry in 2008 and is working on its first inventory. The Cal/EPA plans to report its 2006 emissions data using operational control criteria.

Cal/EPA's progress has been delayed due to staff changes over the years, leaving past inventories only partially completed. Internal management of GHG reporting also changed in the midst of collecting data for the 2005 inventory, causing further delays in amassing and reporting data.

BUILDING THE INVENTORY

Three individuals are now playing key roles in seeing the completion of the agency's report:

- Executive Leadership: Cal/EPA's Secretary
- Project Management: Assistant Secretary for Climate Change
- Technical Contact: Air Pollution Specialist from Cal/EPA

The technical contact has primary responsibility for developing the data management systems, initiating and following up on data requests, and entering the activity data inputs into the reporting tool. He reports on his progress to the project manager, who provides support and additional resources when needed.

To facilitate inter-agency cooperation in locating and obtaining GHG data, the agency's technical contact met individually with each of the six administrative chiefs to coordinate access to each BDO's emissions data and to identify key contacts.

Through this process, the technical contact learned that about half of the emissions activity data (kWh from electric bills, natural gas for heating & cooling, and total gallons/Liters of gasoline and diesel used) needed to build Cal/EPA's inventory was found within the institution, including vehicle information from reports run by the Voyager fleet database system[2] and utility bills from accounting departments and property managers.

Fifty percent of the buildings that Cal/EPA occupies are managed by GSA, and about half of these buildings' utility bills, information essential to the inventory, are paid for and tracked by

[2] The Voyager data base system tracks fuel purchased by cards that are assigned to individual vehicles and can be queried to provide reports of annual fuel consumption for each vehicle in the system.

DGS. Thus, Cal/EPA had to access this data from DGS records and database systems.

VERIFICATION

To hire a third-party Verification Body, Cal/EPA put out a general request for bids through the normal contracting process. Once selected, Cal/EPA signed a multi-year contract with their Verification Body.

CHALLENGES

Cal/EPA has varying management systems for their 150 facilities and 460 vehicles, adding several levels of complexity in evaluating what falls in or out of their boundary lines. Sources which it had expected to use for corroboration did not always align with their records. For instance, several buildings identified by Cal/EPA as within their organizational boundaries did not appear on the state's comprehensive property inventory. Relying on accounting departments across six BDOs and within the separate DGS delayed much of the data collection. The manner in which data requests were made also presented an unintended administrative burden for DGS, an entirely separate agency.

LESSONS LEARNED

- **Successful reporting needs high-level support**. Having the backing of high-level executives added weight to the technical contact's data requests and ensured agency-wide support for the completion of the inventory. Also, setting up an initial meeting with the heads of all involved departments was a good means of communicating the importance of the reporting and paved the way for serious consideration of the technical contact's subsequent requests for information.
- **Greenhouse gas accounting requires qualified personnel**. The technical contact had both a technical and programmatic understanding of greenhouse gas accounting, which helped her understand the type of data to look for and enabled her to communicate the importance of the inventory.
- **Build on existing data systems**. Incorporating GHG accounting requirements into established accounting methods and existing databases will save effort. By using the government's existing property index and fuel purchase tracking system, Cal/EPA got a head start on creating its inventory.
- **Be sure to plan ahead**. Cal/EPA found that building the inventory a few months before the end of the fiscal year is important to ensure that data retrieval does not compete with other department priorities.

BENEFITS

Reporting to The Registry provides a consistent and transparent way for agencies to report and track reductions that are mandated by state/provincial/territorial legislation. The resulting emissions report permits agencies to keep tabs on progress made towards aggressive state GHG reduction targets. Cal/EPA also maintains that building the inventory is important in order to actively demonstrate the agency's environmental leadership and set an example for other agencies. In addition, building the inventory has proven to be an invaluable practical exercise for policy makers, providing a realistic picture and insight into the reality of GHG reporting.

Appendix: California Agency Case Studies

CALIFORNIA PUBLIC UTILITIES COMMISSION

Snapshot:

- Regulatory agency that oversees privately-owned utilities and transportation companies
- 1000 employees
- 3 buildings of which 1 is owned and 2 are leased
- 60 vehicles, managed by a general services agency

PROFILE

The California Public Utilities Commission (CPUC) is a government agency that regulates privately-owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies, in addition to authorizing video franchises. The CPUC employs 1,000 staff members, who are located in three buildings, two of which are leased and one is owned. The CPUC also operates sixty vehicles that are managed by a separate government agency, the Department of General Services. [3]

REPORTING HISTORY

The CPUC committed to voluntarily reporting its GHG emissions in 2003 and successfully reported and verified its 2004 emissions using financial control criteria.

After this first year of reporting, the project manager changed positions. After a significant delay, a new staff person, a Senior Analyst in the Energy Division, was appointed and is now overseeing reporting for 2005, 2006, and 2007. Meanwhile, as other state agencies have joined and begun to report to The Registry, the CPUC has changed its organizational boundaries (it will report under operational control) in order to maintain consistency across state agencies.

BUILDING THE INVENTORY

The CPUC's significant emission sources include mobile emissions from the sixty vehicles, indirect emissions from office electricity use, and stationary emissions from the combustion of natural gas.

Emissions activity data was obtained from a variety of sources, including: the agency's building manager, the vehicle manager, and the Department of General Services (DGS). Gathering the emissions data was the most intensive portion of building the inventory, taking a full-time person around 6-8 months time while maintaining her other job responsibilities. Entering the data into the software only required a few days of effort.

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[3] In this case study, DGS manages a large number of government-owned buildings, leased buildings and vehicles on behalf of other agencies. DGS retains records for many of its managed buildings, as well as a government contract with the Voyager database system, which tracks fuel purchases through credit cards assigned to individual vehicles. The Voyager system also allows queries on the annual fuel purchases of individual vehicles.

VERIFICATION

Because of the relatively small scope of services required for its verification, the CPUC was able to identify a streamlined procurement processes and use a sole-source contract, which can be used in cases where the cost of services is below a pre-determined monetary amount. This meant the time to contract a verifier was 2-3 months, versus the 4-6 months that most standard contracts usually take. The CPUC solicited four bids, and selected a Verification Body that was based close by in order to keep costs low.

CHALLENGES

As a regulatory agency, building an inventory of its own operations is outside the scope of its normal activities. Starting a new program—including finding a qualified project manager who had an internal understanding of where to look for the necessary records—was a challenge. Also, turnover in staff led to a loss of institutional memory; when staff assigned to the project changed, there were no records or processes that could be passed on to keep the reporting moving forward.

With respect to the data, once it was located, it was often incomplete or recorded in an unusable manner. For example, fuel costs were well-documented in the existing data systems, but the gallons of fuel purchased, information needed to calculate greenhouse gas emissions, were not tracked. Also, shared management & operation of facilities and vehicles with a separate general services agency made it difficult to sort through and access the data needed. For instance, electricity consumption for buildings that were managed through DGS had to be accessed through that agency.

LESSONS LEARNED

- **To succeed, staff involved needs appropriate training**. Accounting for greenhouse gas emissions data is not a normal part of this agency's work. Adapting these new roles into specific job duties would make data collection a part of the agency's established business accounting system and ease requests for emissions data in the future.
- **Keep a record of how the inventory was built**. A clear and permanent Inventory Management Plan will provide consistency from year to year in the reporting process and streamline data collection.
- **Identifying the necessary information is the most consuming step in building the inventory.** Determining the necessary data to be collected, identifying where it can be obtained and following up on data requests is the most time-consuming aspect of the effort. Entering the emissions activity data into the software constituted a small portion of the overall time involved.
- **You cannot manage what you do not measure**. By reporting their GHGs, the CPUC identified the need for its own management system to track data associated with energy consumption and efficiency.

BENEFITS

Reporting the GHG inventory was the CPUC's first effort ever to monitor its energy use. With this benchmark, the agency, which regulates utility energy efficiency programs among other activities, considered for the first time how it could reduce its own energy use. With information on its emissions in hand, the CPUC could justify emission reduction strategies and implement

agency-wide changes. For instance, the inventory helped the agency identify their 10 most-driven vehicles. The CPUC plans to use the information to make the case to switch these models to hybrids as a part of their sustainability management plan. Reporting their GHG emissions allowed the agency to identify that by making this change, they could save over $21,000 in gasoline costs in one year alone (based on a per gallon cost of $3.50).

Appendix: Tools for Obtaining Utility Data

Customer Consent Form

(To Release Intermountain Gas Co. Customer Account Information)

I, the customer of record, do hereby agree and allow Intermountain Gas Co. to release the following account information:

☐ Natural Gas Usage

☐ Other _____

This information may be released to the following person(s) or representative of the following organization(s):

Name		
Address		

Information may be released on the following account:

Name	
Service Location	

Account Number	
Meter Number	

List additional accounts on the back.

Signature _____ Date _____

Customer of Record

This authorization is valid until _____ (Date)

List addition accounts below.

Name	Service Location	Account Number	Meter Number

Appendix B:
Executive Orders and CAT Recommendations
EXECUTIVE ORDER B-18-12

EXECUTIVE ORDER B-18-12
by the
Governor of the State of California

WHEREAS green building practices use energy, water, and materials efficiently throughout the building life cycle, enhance indoor and outdoor air quality, improve the health, productivity, and working lives of state employees, incorporate environmentally preferable products, and substantially reduce the costs and environmental impacts associated with operating State buildings; and

WHEREAS energy and water efficiency improvements in State buildings and operations save the State money and boost California's economy by investing in green technology companies and green jobs; and

WHEREAS the California Global Warming Solutions Act of 2006 requires the State to reduce greenhouse gas emissions to 1990 levels by 2020 and beyond, and the energy used in buildings accounts for the second largest contribution to California's greenhouse gas emissions.

NOW, THEREFORE, I, Edmund G. Brown Jr., Governor of the State of California, do hereby issue the following orders to become effective immediately:

IT IS HEREBY ORDERED that State agencies, departments, and other entities under my direct executive authority (State agencies) take actions to reduce entity-wide greenhouse gas emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline.

IT IS FURTHER ORDERED that all new State buildings and major renovations beginning design after 2025 be constructed as Zero Net Energy facilities with an interim target for 50% of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50% of the square footage of existing state-owned building area by 2025.

IT IS FURTHER ORDERED that State agencies continue taking measures to reduce grid-based energy purchases for State-owned buildings by at least 20% by 2018, as compared to a 2003 baseline, and reduce other non-building, grid-based retail energy purchases by 20% by 2018, as compared to a 2003 baseline.

IT IS FURTHER ORDERED that State agencies participate in "demand response" programs to obtain financial benefits for reducing peak electrical loads when called upon, to the maximum extent that is cost-effective for each State-owned or leased facility, and does not materially adversely affect agency

operations.

IT IS FURTHER ORDERED that any proposed new or major renovation of State buildings larger than 10,000 square feet use clean, on-site power generation, such as solar photovoltaic, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible.

IT IS FURTHER ORDERED that new or major renovated State buildings and build-to-suit leases larger than 10,000 square feet obtain LEED “Silver” certification or higher, using the applicable version of LEED.

IT IS FURTHER ORDERED that new and existing buildings incorporate building commissioning to facilitate improved and efficient building operation.

IT IS FURTHER ORDERED that State agencies identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

IT IS FURTHER ORDERED that the Department of General Services work with other State agencies to develop by July 1, 2013, policies and guidelines for the operation and maintenance of State buildings to achieve operating efficiency improvements and water and resource conservation, and to continually update and incorporate these into the State Administrative Manual.

IT IS FURTHER ORDERED that State agencies implement relevant and feasible voluntary measures from Divisions A4.5 and A5.5 of the California Green Building Standards Code, to ensure healthy indoor environments for occupants.

IT IS FURTHER ORDERED that State agencies reduce overall water use at the facilities they operate by 10% by 2015 and by 20% by 2020, as measured against a 2010 baseline.

IT IS FURTHER ORDERED that State agencies purchase and use environmentally preferable products that have a lesser or reduced effect on human health and the environment when compared with competing goods that serve the same purpose whenever they are applicable, perform well, and are cost-effective per Public Contract Code section 12400.

IT IS FURTHER ORDERED that State agencies identify and pursue available financing and project-delivery mechanisms to achieve these goals.

IT IS FURTHER ORDERED that State agencies measure, monitor, report, and oversee progress on measures in this Order.

IT IS FURTHER ORDERED that State agencies implement the measures described in the accompanying Green Building Action Plan for facilities owned, funded, or leased by the state.

IT IS FURTHER ORDERED that Executive Order S-20-04 is rescinded immediately.

IT IS REQUESTED that entities of State government not under my direct executive authority also implement similar measures.

This Executive Order is not intended to create, and does not create, any rights or benefits, whether substantive or procedural, or enforceable at law or in equity, against the State of California or its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that it be given widespread publicity and notice.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 25th day of April 2012.

_____

EDMUND G. BROWN JR.
Governor of California

Source: http://gov.ca.gov/news.php?id=17508

State of California
Green Building Action Plan

Green Building Action Plan – For Implementation of Executive Order B-18-12

(Detailed implementation direction and actions that accompany Executive Order B-18-12)

Greenhouse Gas Emissions

1. State agencies, departments, and other entities under the governor's direct executive authority (State agencies) shall take actions to reduce entity-wide greenhouse gas emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline.

Energy

2. All new State buildings and major renovations beginning design after 2025 shall be constructed as Zero Net Energy facilities with an interim target for 50% of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50% of the square footage of existing State-owned building area by 2025.

2.1. The State shall identify at least three buildings by January 1, 2013, to pursue Zero Net Energy as pilot projects. These shall include at least one new building to be designed and constructed, one major renovation, and one existing building.

2.2. New and major renovated State buildings and build-to-suit leases shall be designed and constructed to exceed applicable version of CCR Title 24, Part 6, by 15% or more, and include building commissioning, for buildings authorized to begin design after July 1, 2012.

3. New and renegotiated state building leases shall reduce energy and resource use to the extent possible and economically feasible.

3.1. New building leases shall, where economically feasible, include sub-meters and provide energy use data into Energy Star's Portfolio Manager.

3.2. Renegotiated State leases for buildings where the State is a sole tenant shall provide energy use data into Energy Star's Portfolio Manager.

3.3. New and renegotiated State building leases shall encourage landlords to participate in utility sponsored energy conservation measures, using alternative financing.

4. State agencies shall continue taking measures to reduce grid-based energy purchases for State-owned buildings by at least 20% by 2018, as compared to a 2003 baseline, and reduce other non-building, grid-based retail energy purchases by 20% by 2018, as compared to a 2003 baseline.

4.1. Energy purchase reductions shall include and combine all forms of energy, including electricity, natural gas, propane, etc., and convert energy purchased into common units of energy (kBtu). Onsite renewable energy generated is not included in total energy purchases, and counts toward reductions.

4.2. The Department of General Services shall establish an interim benchmark target for December, 2014, for the achievement of these reductions by State agencies.

4.3. The provision shall not apply to retail electricity purchases for water management activities directly associated with water conveyance and flood control that are highly variable depending on weather conditions.

5. State agencies shall participate in "demand response" programs to obtain financial benefits for reducing peak electrical loads when called upon, to the maximum extent that is cost-effective for each State-owned or leased facility, and does not materially adversely affect agency operations.

On-Site Renewable Energy Goals

6. Any proposed new or major renovation of State buildings larger than 10,000 square feet shall use clean, onsite power generation such as solar photo-voltaic, solar thermal and wind power generation, and clean backup power supplies, if economically feasible.

6.1. Facilities with available open land shall consider large scale distributed generation through various financing methods, including third party power purchase agreements.

Building Design & Construction

7. New and major renovated State buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED "Silver" certification or higher, using the applicable version of LEED.

7.1. Certification to an equivalent or higher standard is acceptable when approved by the Sustainable Building Task Force.2

7.2. Buildings smaller than 10,000 square feet authorized to begin design after January 1, 2013, shall meet applicable California Green Building Standard's Tier 1 measures.

Building Commissioning

8. New and existing buildings shall incorporate building commissioning to facilitate improved and efficient building operation. Actions shall include:

8.1. The Department of General Services with the concurrence of the California Energy Commission and other State agencies shall establish energy use intensity (EUI) threshold targets to trigger a requirement for commissioning of existing buildings, based on building type and use, and submit these target EUI thresholds to the Governor's office by January 1, 2013.

8.2. State agencies with jurisdiction over state-owned buildings shall pursue monitoring-based commissioning for facilities over 5,000 square feet with energy use intensities exceeding thresholds determined by the Department of General Services, to the extent possible.

8.3. New construction or major renovations greater than 5,000 square feet for offices or other energy intensive spaces shall be commissioned.

Existing Buildings

9. All existing State buildings over 50,000 square feet shall complete LEED-EB certification by December 31, 2015 (including meeting an Energy Star rating of 75, or alternate energy standard established by the California Energy Commission), to the maximum extent cost-effective.

10. The Department of General Services shall work with other State agencies to develop by no later than July 1, 2013, policies and guidelines for the operation and maintenance of State buildings to achieve operating efficiency improvements and water and resource conservation, and to continually update and incorporate these into the State Administrative Manual (SAM). These will include, but are not limited to the following areas:

10.1. Reducing plug loads;

10.2. Building and grounds maintenance;

10.3. Commissioning, retro-commissioning, monitoring-based commissioning;

10.4. Water efficiency;

10.5. Recycling and waste diversion practices;

10.6. Environmentally Preferable Purchasing (EPP);

10.7. Information technology management;

10.8. Energy use;

10.9. Monitoring;

10.10. Indoor environmental quality

Indoor Environmental Quality

11. State agencies shall implement relevant and feasible voluntary measures from Divisions A4.5 and A5.5 of the California Green Building Standards Code, to ensure healthy indoor environments for occupants.

Water Efficiency and Conservation

12. State agencies shall reduce water use at the facilities they operate by 10% by 2015 and by 20% by 2020, as measured against a 2010 (baseline).

12.1. The Department of Water Resources shall develop and propose no later than January 1, 2013, water use guidelines and criteria, as well as recommend the use of an appropriate 3rd party database for reporting and monitoring state facilities' water use to improve water use efficiency in state-operated buildings and landscapes.

12.1.1. State agencies shall begin using the water use reporting database no later than January 1, 2013 to monitor annual water use and submit annual water use reports into water use database beginning January 1, 2014.

12.1.2. State agencies shall benchmark and collect 2010 water use data or earlier, if available, for each facility they operate to develop baseline water use from which to calculate the agencies 2015 and 2020 water use targets, and measure progress.

12.1.3. New and renegotiated state leases shall encourage including provisions for reporting water use and installation of sub-meters where appropriate.

12.2. All new and renovated State buildings and landscapes shall utilize alternative sources of water wherever cost-effective. Sources may include, but are not limited to: recycled water, graywater, rainwater capture, stormwater retention, and other water conservation measures.

12.3. Landscape plants shall be selected based on their suitability to local climate and site conditions, and reduced water needs and maintenance requirements.

Electric Vehicle Charging Stations

13. State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.

14. The Department of General Services, in conjunction with other appropriate State agencies and outside entities, shall develop an electric vehicle charging station infrastructure plan including the following:

14.1. Evaluate existing state-owned parking structures and parking lots and install plug-in electric vehicle charging infrastructure where most cost-effective and appropriate.

14.2. Plan for and install appropriate cost-effective levels of plug-in electric vehicle charging infrastructure in the new construction of state-owned parking structures and parking lots.

Environmentally Preferable Purchasing (EPP)

15. State agencies shall purchase and use environmentally preferable products that have a lesser or reduced effect on human health and the environment when compared with competing goods that serve the same purpose whenever they are applicable, perform well and are cost-effective per Public Contract Code 12400 including, but not limited to:

15.1. Purchase, install and operate EPA Energy Star rated equipment or appliances when cost-effective, meeting purchasing specification requirements, and available for the type of use. In addition, for statewide contracts, where multiple products are available for purchase, the Department of General Services shall set specifications for purchasing equipment or appliances that are the most cost effective over their life.

15.2. Consider purchase and use of recycled paint from State Contracts for appropriate exterior applications, providing users with a quality product comparable to virgin paint while offering significant cost savings.

15.3. Consider use of low or zero VOC paint in building interiors, improving indoor air quality.

15.4. State office printers, copiers or related equipment shall use quality remanufactured ink and toner cartridges to the extent possible and to the extent that the Department of General Services determines that such equipment reduces costs and waste. ,

15.5. State agencies shall purchase, install and operate WaterSense or equivalent industry standard labeled fixtures and equipment (including irrigation equipment) whenever cost-effective, meeting quality requirements, and when available for type of use.

Financing

16. State agencies shall identify and pursue available financing and project delivery mechanisms to achieve these goals including, but not limited to:

16.1. State revolving loan funds, utility on-bill financing, power purchase agreements, GS $Mart, energy service contractors (ESCO's), or other available programs.

Monitoring and Executive Order Oversight

17. State agencies shall measure, monitor, report and oversee progress on measures in this Order as follows:

17.1. State agencies shall verify data entries into Energy Star Portfolio Manager including energy use by facilities and individual buildings (if metered separately) that they own, or leased space where the State pays utilities.

17.2. State agencies shall submit an annual report of this energy use to the Department of General Services by March 1st each year, including energy use, individual building square footages (if metered separately), and building types.

17.2.1. State agencies shall include separately in the report annual on-site renewable energy generated and used at State-owned facilities.

17.3. State agencies shall prepare annual inventories of greenhouse gas emissions generated in their course of business and enter these inventories into The Climate Registry's CRIS database.

17.4. The Department of General Services shall provide this energy use information to the general public on an easily accessible website and submit an annual report commencing July 2012, on the energy use by State-owned facilities, GHG reductions as well as LEED registered and certified projects.

17.5. A Sustainable Building Task Force shall be formed to provide executive level oversight to meet quarterly and oversee progress on this order.

17.6. A Sustainable Building Working Group shall be formed of technical representatives of State agencies to oversee implementation of measures in this order, meet monthly, measure results, and report findings to the Sustainable Building Task Force.

Source: http://gov.ca.gov/docs/Green_Building_Action_Plan_B.18.12.pdf

EXECUTIVE ORDER S-03-10

WHEREAS the national recession, falling tax revenues and serious budget shortfalls require that the State reduce spending and achieve greater efficiencies in all areas of government; and

WHEREAS state government must achieve every possible efficiency in its operations and in its delivery of services to Californians; and

WHEREAS state government spends more than $3 billion annually on information technology and telecommunications; and

WHEREAS the operation of information technology and telecommunications equipment accounts for two percent of global greenhouse gas emissions and that figure will increase to four percent by 2020 without concerted action; and

WHEREAS information technology equipment accounts for 40 percent of energy used within office environments; and

WHEREAS the Office of the State Chief Information Officer (OCIO) was created in statute to minimize overlap, redundancy, and cost in state operations by promoting the efficient and effective use of information technology and telecommunications; and

WHEREAS the Governor's Information Technology Reorganization Plan integrated statewide information technology functions, including the Department of Technology Services, the Office of Information Security, and the Department of General Services' Telecommunications Division, within the OCIO; and

WHEREAS the State of California is fully committed to leveraging a common technology platform and shared services in order to make state government more transparent, accessible and accountable, enhance the quality of services to residents and businesses, ensure the security and reliability of the state's information systems, protect the privacy of information and data, promote emerging technologies, and develop enterprise applications with standard interfaces; and

WHEREAS state agencies and departments under my direct executive authority must be accountable for reducing the fiscal and environmental impacts of information technology and telecommunications goods and services; and

WHEREAS leveraging shared services and consolidating information technology and telecommunications equipment, resources and investments have been proven to achieve greater efficiency, cost-effectiveness and environmental sustainability in information technology and telecommunications operations.

NOW, THEREFORE, I, ARNOLD SCHWARZENEGGER, Governor of the State of California, by virtue of the power and authority vested in me by the Constitution and statutes of the State of California, do hereby issue this Order to become effective immediately:

1. The State Chief Information Officer (State CIO) and the Office of the State CIO (OCIO), consistent with Government Code section 11545 et seq., shall have authority as provided by law over all information technology (IT) infrastructure and shared services, including, but not limited to, the following: data and telecommunications networks; data center services, including all equipment necessary to operate mission-critical and public-facing applications (e.g., servers, storage, switches, security devices, and mainframes); hosting of mission-critical and public-facing applications; and shared enterprise services (e.g., e-mail and directory).

2. Beginning in 2010, and annually thereafter, each agency under my direct executive authority shall submit, as instructed by the OCIO, a summary of its actual and projected information technology and telecommunications costs, including personnel, for the past year, current year, and budget year in a format prescribed by the OCIO in order to capture statewide IT expenditures.

3. Cabinet Agencies shall have an Agency Chief Information Officer (Agency CIO) appointed by the Agency Secretary, or the Agency Secretary's designee, subject to the approval of the State CIO. Agency CIOs shall be responsible for overseeing the IT portfolio and IT services within the Agency through the operational oversight of IT budgets of constituent departments, boards, bureaus and offices.

4. All other agencies (except for Cabinet Agencies), departments, boards, bureaus and offices under my direct executive authority shall appoint Chief Information Officers (CIOs). These CIOs shall be directly responsible for all IT and telecommunications activities within their agency, department, board, bureau or office, including, but not limited to: all IT, information security, and telecommunications personnel and contractors, systems, assets, projects, purchases, and contracts. CIOs shall ensure agency conformity with state IT and telecommunications policy and enterprise architecture.

5. Cabinet Agencies shall have an Agency Information Security Officer (Agency ISO) appointed or designated by the Agency Secretary, or the Agency Secretary's designee, subject to the approval by the State Chief Information Security Officer (State CISO). The Agency ISO shall report to the Agency CIO.

6. All other agencies (except for Cabinet Agencies), departments, boards, bureaus and offices under my direct executive authority shall appoint or designate a qualified Information Security Officer (ISO), who shall report to the CIO of his or her respective agency, department, board, bureau or office. The State CISO shall develop specific qualification criteria for ISOs. If an agency cannot support a qualified ISO, the Agency ISO shall serve in this capacity. The Agency ISO will coordinate with the State CISO for additional support as necessary.

7. For all agencies under my direct executive authority, ISOs shall investigate, resolve, and report all information security incidents to the Office of Information Security (OIS) within the OCIO. In addition ISOs shall: complete disaster recovery planning and agency-wide risk assessments; conduct and document information security awareness training for all agency employees on an annual basis; report security metrics using methodologies developed by the OIS; and participate in activities coordinated by the OIS in order to better understand and address security incidents and critical cyber security threats to the state.

8. Agency CIOs shall be responsible for developing the enterprise architecture for their respective Agencies, subject to the review and approval of the OCIO, to rationalize, standardize, and consolidate IT applications, assets, infrastructure, data, and procedures for all departments, boards, bureaus and offices within their Agencies. Agency CIOs shall ensure that all departments, boards, bureaus and offices within their Agencies are in compliance with state IT policy.

9. The CIOs of agencies under my direct executive authority shall develop and maintain enterprise architecture plans in compliance with the statewide enterprise architecture policies and standards as established by the OCIO. All information technology and telecommunications acquisitions shall be consistent with the defined enterprise architecture and any deviations shall require the approval of the OCIO.

10. Consistent with Executive Order S-20-04, which established the Green Building Initiative, the CIOs of all agencies under my direct executive authority shall develop plans to leverage cost-effective strategies to reduce the total amount of energy utilized by information technology and telecommunications equipment by 10 percent by July 1, 2010, by 20 percent by July 1, 2011, and by 30 percent by July 1, 2012. Progress toward these targets shall be reported to the OCIO on a quarterly basis beginning April 2010. The OCIO shall publicly report the progress of this effort on its website.

11. The CIOs of all agencies under my direct executive authority shall work with the OCIO to reduce the total amount of data center square footage currently utilized by state agencies by 25 percent by July 2010, and by 50 percent by July 2011. In addition, CIOs shall begin to transition the hosting of all mission critical and public-facing applications to a Tier III data center designated by the OCIO by no later than September 2010, and shall commence closing all existing server rooms that house non-network equipment by June 2013. Transition plans shall be in accordance with guidance provided by the OCIO. Effective immediately, all new mission critical and public-facing applications and major server refreshes shall be hosted in a Tier III data center as designated by the OCIO. Progress toward these targets shall be reported to the OCIO on a quarterly basis beginning April 2010. The OCIO shall publicly report the progress of this effort on its website.

12. The CIOs of all agencies under my direct executive authority shall begin migration from their existing network services to the California Government Network (CGN) by no later than July 2010. Progress toward this target shall be reported to the OCIO on a quarterly basis beginning April 2010. The OCIO shall publicly report the progress of this effort on its website.

13. The CIOs of all agencies under my direct executive authority shall transition to the state's shared e-mail security and encryption solution by no later June 2010, and shall work with the OCIO to migrate to the state's shared e-mail solution by no later than June 2011. Progress toward this target shall be reported to the OCIO on a quarterly basis beginning April 2010. The OCIO shall publicly report the progress of this effort on its website.

14. In order to ensure compliance with this executive order, the OCIO is authorized pursuant to Government Code section 11545 et seq. to reduce state agencies' delegated IT project development authority if agencies are not in substantial compliance. Upon notification by the OCIO of substantial non-compliance by an agency, the Department of General Services may reduce or eliminate the IT purchasing authority of such agencies in consultation with the OCIO.

15. The State CIO, beginning April 2010, and quarterly thereafter, shall issue a report to the Cabinet Secretary concerning: a) progress by agencies toward consolidation; b) the results of such consolidation in terms of fiscal and environmental benefit; and c) the status and quality of shared services.

IT IS FURTHER ORDERED that the agencies and departments under my direct executive authority shall cooperate in the implementation of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, officers, employees, or any other entity or person.

I FURTHER DIRECT that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given to this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 9th day of February 2010.

_____

ARNOLD SCHWARZENEGGER

Governor of California

State of California Commitments for Reducing Greenhouse Gas Emissions from State Operations.

The following recommendations, developed by the State Operations Group of the Climate Action Team (CAT), were adopted by the CAT at its June 23, 2010, public meeting. These policies commit the state to reduce the greenhouse gas intensity of its operations through gains in efficiency and adoption of sustainable business practices. These policies commit all Executive Branch agencies to actions leading to reductions in greenhouse gas emissions.

- Include both direct and indirect (as defined) emissions from Executive Branch agencies in the scope of emissions considered for reduction activities.
- Require each state agency to develop and implement a GHG reduction policy that reduces its GHG emissions by 30 percent by 2020, while allowing some flexibility for the agencies based on their individual characteristics, operations, and resources.
- Create a uniform GHG reporting protocol appropriate to state government operations, and establish and maintain a state-wide inventory of GHG emissions from State Government projects and operations based on this protocol.
- Establish a GHG emission goal (in tonnes of CO2e) for state government projects and operations that is based on the findings of the inventory. (i.e., a State Operations “Cap”)
- Conduct a review of laws, regulations, policies and procedures to evaluate their effect on State agencies’ ability to manage GHG emissions.

- Implement existing Green Building Executive orders and reduce electricity purchased for buildings by 20 percent by 2015.
- Support the implementation of the Governor's Information Technology Executive Order (S-3-10), which seeks a 30 percent reduction in energy consumption by IT and telecommunications equipment by 2012.
- Support ongoing efforts by DWR to reduce the carbon intensity of the electricity purchased for the operation of the California Water Project, and to increase the efficiency of pumps and motors used in its operation.
- Improve the efficiency and efficient use of vehicles in the state fleet.
- Reduce business related employee travel, and explore additional resources and infrastructure needed to facilitate this reduction in travel.
- Reduce emissions associated with employee commuting,
- Adopt Employee Best Practices throughout state government, aimed at reducing GHG emissions up the supply chain and improving overall sustainability of State government operations.
- Pursue greener lease terms and specify additional green requirements in new and renewed building leases.
- Require participation in CEC Energy Performance Rating (currently under development) by California State-owned buildings.

Source:
http://www.climatechange.ca.gov/climate_action_team/meetings/2010-06-23_meeting/2010-06-23_CAT_adopted_policies_for_reducing_GHG_emissions_from_state_operations.pdf